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ABSTRACT OF THE DISCLOSURE

A joint structure includes a splice plate and a gusset plate, which can prevent out-of-plane buckling of the gusset plate without the necessity of welding a stiffening rib plate thereon. The joint structure includes a gusset plate and at least one splice plate connected to the gusset plate. Each of the splice plates is constructed from section steel having a non-rectangular cross-section. The joint structure can be used in a building during assembly of the building or for reinforcement of the building.